

**What Is Claimed Is:**

1           1.       A method for using visual effects within a three-dimensional (3D)  
2 display environment to indicate a usage context of a computational resource,  
3 wherein the computational resource is represented by a 3D object in the 3D  
4 display environment, the method comprising:  
5           determining the usage context of the computational resource;  
6           determining visual effects corresponding to the usage context to be applied  
7 to the 3D object which represents the computational resource; and  
8           applying the visual effects to the 3D object so that the usage context of the  
9 corresponding computational resource can be determined by viewing the 3D  
10 object within the 3D display environment.

1           2.       The method of claim 1, wherein the computational resource can  
2 include one of:  
3           a file;  
4           a folder; and  
5           an application.

1           3.       The method of claim 1, wherein the usage context of the  
2 computational resource can specify:  
3           a time at which the computational resource was created;  
4           a last time the computational resource was accessed;  
5           a frequency of usage of the computational resource;  
6           an owner of the computational resource;  
7           a location of the computational resource within the 3D display  
8 environment; and

9 a group membership of the computational resource.

1 4. The method of claim 1, wherein the visual effects can include:  
2 a location of the 3D object;  
3 an orientation of the 3D object;  
4 a color of the 3D object;  
5 a texture of the 3D object;  
6 a surface pattern on the 3D object;  
7 a bump map for the 3D object;  
8 a size of the 3D object;  
9 lighting for the 3D object;  
10 transparency of the 3D object;  
11 reflectiveness of the 3D object; and  
12 simulated degradation of the 3D object.

1 5. The method of claim 1, further comprising:  
2 receiving input from a user to alter visual effects for the 3D object; and  
3 in response to the input, altering visual effects for the 3D object.

1 6. The method of claim 1, wherein visual effects for the 3D object  
2 change over time, thereby indicating aging of the associated computational  
3 resource.

1 7. The method of claim 1, wherein the visual effects are applied to a  
2 group of 3D objects whose associated computational resources have a similar  
3 usage context to the computational resource associated with the 3D object.

1           8.     The method of claim 7, wherein applying the visual effects to the  
2 group of 3D objects involves highlighting the group of 3D objects by using a  
3 scoped spotlight within the 3D display environment.

1           9.     The method of claim 7, wherein applying the visual effects to the  
2 group of 3D objects involves orienting the group of 3D objects such that the  
3 surfaces of the 3D objects have the same angle.

1           10.    The method of claim 1, wherein applying the visual effects  
2 involves applying a view direction within the 3D display environment to make  
3 visible a subset of 3D objects in the 3D display environment which constitute a  
4 workspace.

1           11.    The method of claim 1, wherein applying the visual effects  
2 involves changing a lighting position and corresponding shadows cast by the 3D  
3 object to indicate time of day.

1           12.    The method of claim 1, wherein applying the visual effects  
2 involves changing a fog parameter within the 3D display environment to indicate  
3 morning fog.

1           13.    The method of claim 1, wherein applying the visual effects  
2 involves changing a background color of the 3D display environment, wherein the  
3 background color is reflected by the 3D object.

1           14.    A computer-readable storage medium storing instructions that  
2 when executed by a computer cause the computer to perform a method for using

3 visual effects within a three-dimensional (3D) display environment to indicate a  
4 usage context of a computational resource, wherein the computational resource is  
5 represented by a 3D object in the 3D display environment, the method  
6 comprising:  
7 determining the usage context of the computational resource;  
8 determining visual effects corresponding to the usage context to be applied  
9 to the 3D object which represents the computational resource; and  
10 applying the visual effects to the 3D object so that the usage context of the  
11 corresponding computational resource can be determined by viewing the 3D  
12 object within the 3D display environment.

1 15. The computer-readable storage medium of claim 14, wherein the  
2 computational resource can include one of:  
3 a file;  
4 a folder; and  
5 an application.

1 16. The computer-readable storage medium of claim 14, wherein the  
2 usage context of the computational resource can specify:  
3 a time at which the computational resource was created;  
4 a last time the computational resource was accessed;  
5 a frequency of usage of the computational resource;  
6 an owner of the computational resource;  
7 a location of the computational resource within the 3D display  
8 environment; and  
9 a group membership of the computational resource.

1           17.     The computer-readable storage medium of claim 14, wherein the  
2 visual effects can include:  
3           a location of the 3D object;  
4           an orientation of the 3D object;  
5           a color of the 3D object;  
6           a texture of the 3D object;  
7           a surface pattern on the 3D object;  
8           a bump map for the 3D object;  
9           a size of the 3D object;  
10          lighting for the 3D object;  
11          transparency of the 3D object;  
12          reflectiveness of the 3D object; and  
13          simulated degradation of the 3D object.

1           18.     The computer-readable storage medium of claim 14, wherein the  
2 method further comprises:  
3           receiving input from a user to alter visual effects for the 3D object; and  
4           in response to the input, altering visual effects for the 3D object.

1           19.     The computer-readable storage medium of claim 14, wherein  
2 visual effects for the 3D object change over time, thereby indicating aging of the  
3 associated computational resource.

1           20.     The computer-readable storage medium of claim 14, wherein the  
2 visual effects are applied to a group of 3D objects whose associated computational  
3 resources have a similar usage context to the computational resource associated  
4 with the 3D object.

1           21.     The computer-readable storage medium of claim 20, wherein  
2     applying the visual effects to the group of 3D objects involves highlighting the  
3     group of 3D objects by using a scoped spotlight within the 3D display  
4     environment.

1           22.     The computer-readable storage medium of claim 20, wherein  
2     applying the visual effects to the group of 3D objects involves orienting the group  
3     of 3D objects such that the surfaces of the 3D objects have the same angle.

1           23.     The computer-readable storage medium of claim 14, wherein  
2     applying the visual effects involves applying a view direction within the 3D  
3     display environment to make visible a subset of 3D objects in the 3D display  
4     environment which constitute a workspace.

1           24.     The computer-readable storage medium of claim 14, wherein  
2     applying the visual effects involves changing a lighting position and  
3     corresponding shadows cast by the 3D object to indicate time of day.

1           25.     The computer-readable storage medium of claim 14, wherein  
2     applying the visual effects involves changing a fog parameter within the 3D  
3     display environment to indicate morning fog.

1           26.     The computer-readable storage medium of claim 14, wherein  
2     applying the visual effects involves changing a background color of the 3D  
3     display environment, wherein the background color is reflected by the 3D object.

1           27.     An apparatus for using visual effects within a three-dimensional  
2 (3D) display environment to indicate a usage context of a computational resource,  
3 wherein the computational resource is represented by a 3D object in the 3D  
4 display environment, the method comprising:  
5           a usage mechanism configured to determine the usage context of the  
6 computational resource;  
7           a determination mechanism configured to determine visual effects  
8 corresponding to the usage context to be applied to the 3D object which represents  
9 the computational resource; and  
10          a visual effects mechanism configured to apply the visual effects to the 3D  
11 object so that the usage context of the corresponding computational resource can  
12 be determined by viewing the 3D object within the 3D display environment.

1           28.     The apparatus of claim 27, wherein the computational resource can  
2 include one of:  
3           a file;  
4           a folder; and  
5           an application.

1           29.     The apparatus of claim 27, wherein the usage context of the  
2 computational resource can specify:  
3           a time at which the computational resource was created;  
4           a last time the computational resource was accessed;  
5           a frequency of usage of the computational resource;  
6           an owner of the computational resource;  
7           a location of the computational resource within the 3D display  
8 environment; and

9 a group membership of the computational resource.

1 30. The apparatus of claim 27, wherein the visual effects can include:  
2 a location of the 3D object;  
3 an orientation of the 3D object;  
4 a color of the 3D object;  
5 a texture of the 3D object;  
6 a surface pattern on the 3D object;  
7 a bump map for the 3D object;  
8 a size of the 3D object;  
9 lighting for the 3D object;  
10 transparency of the 3D object;  
11 reflectiveness of the 3D object; and  
12 simulated degradation of the 3D object.

1 31. The apparatus of claim 27, further comprising a receiving  
2 mechanism configured to receive input from a user to alter visual effects for the  
3 3D object, wherein the visual effects mechanism is further configured to alter  
4 visual effects for the 3D object in response to the input.

1 32. The apparatus of claim 27, wherein the visual effects mechanism is  
2 further configured to change the visual effects for the 3D object over time, thereby  
3 indicating aging of the associated computational resource.

1 33. The apparatus of claim 27, wherein the visual effects mechanism is  
2 further configured to apply the visual effects to a group of 3D objects whose



3 associated computational resources have a similar usage context to the  
4 computational resource associated with the 3D object.

1 34. The apparatus of claim 33, wherein the visual effects mechanism is  
2 further configured to highlight the group of 3D objects by using a scoped spotlight  
3 within the 3D display environment.

1 35. The apparatus of claim 33, wherein the visual effects mechanism is  
2 further configured to orient the group of 3D objects such that the surfaces of the  
3 3D objects have the same angle.

1 36. The apparatus of claim 27, wherein the visual effects mechanism is  
2 further configured to apply a view direction within the 3D display environment to  
3 make visible a subset of 3D objects in the 3D display environment which  
4 constitute a workspace.

1 37. The apparatus of claim 27, wherein the visual effects mechanism is  
2 further configured to change a lighting position and corresponding shadows cast  
3 by the 3D object to indicate time of day.

1 38. The apparatus of claim 27, wherein the visual effects mechanism is  
2 further configured to change a fog parameter within the 3D display environment  
3 to indicate morning fog.

1 39. The apparatus of claim 27, wherein the visual effects mechanism is  
2 further configured to change a background color of the 3D display environment,  
3 wherein the background color is reflected by the 3D object.